LEVEL

(6) CONTINGENCY MANAGEMENT OF HOSPITALIZED CHARACTER AND BEHAVIOR DISORDERED SOLDIERS

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Unmotivated and delinquent populations pose a unique challenge to the military in which consistency and responsibility are demanded of all personnel. Such soldiers have frequently found themselves in the service much against their desires. Not rarely these men have been given a choice between induction and jail by a judge with his own policy of social rehabilitation. Additionally the character and behavior disordered soldier and the delinquent soldier have been known to be over-represented in the more marginal soldiers who in recent years have been drafted at the rate of 100,000 per year in accordance with a policy initiated under former Secretary of Defense MacNamara (Crowe and Colbach, 1971; Flyer, 1959).

Unlike a civilian employer who can "fire" an unproductive or unmotivated employee, the Army must go through sometimes drastic steps to eliminate such personnel, usually administrative separation under the provisions of AR 635-212 and frequently following some form of disciplinary action. Similarly the disgruntled soldier cannot "quit" his Army job without risking a lifelong stigma which may severely curtail his employability as well as present him with a personal failure which may accentuate a pattern of failure and inadequacy. The administrative discharge is taken by employers to mean less than honorable or satisfactory military service. Approximately 6 percent of the Army discharges each year are due to problems of inadaptability (Maillet, 1967). In a 1962-63 study of problem soldiers at Fort Sheridan, Illinois, it was estimated that the cost to the government of 200 delinquent soldiers ran as high as 2 million dollars (Cohen, 1964).

It might be argued that for the benefit of the individual a non-punitive separation should be the usual procedure for inept or unmotivated soldiers. Such

a procedure might raise the question of fairness to other soldiers who honorably complete full duty; however, it would probably not be feasible anyway, e.g., the administrative separation for inadaptability was originally intended to be non-punitive. Aside from these questions an overriding consideration is the tendency of any behavior which allows escape from an aversive situation to become an "evacuation syndrome" (Johnson, 1967). Psychiatric illness as an "honorable" way out of combat during the early stages of U.S. involvement in World War II resulted at one time in as many men being separated as those being drafted (Artiss, 1963). At that time most of those patients who would now be given character and behavior disorder diagnoses were given neurotic diagnoses and medical discharges. The disastrous effects of too ready identification of social and motivational problems as medical illnesses has been amply recorded (Segal, 1953; Brill and Beebe, 1956; Johnson, 1967).

To deal with some of these difficulties, an experimental ward was instituted at Walter Reed General Hospital based on operant conditioning theory. Operant conditioning is a technique of behavior modification which has emerged from laboratory studies of human and infrahuman species. Based on early work by Thorndike (1911) and modified by Skinner (1938, 1963) and others, current operant theory postulates that behavior is increased in rate, shaped, suppressed, or extinguished depending on its consequences or effects on the environment. It has been used successfully in the treatment of populations ranging from the mentally retarded, the chronically psychotic inpatient, stutterers, perverts and anorexia nervosa patients (Ullmann and Krasner, 1965), to various neurotic patients (Eysenck, 1960; Wolpe and Lazarus, 1966) and autistic children (Ferster, 1966). More recently operant techniques have been successfully used in changing the behavior of Job Corps workers (Liberman, 1968), offenders (Shah, 1966), and juvenile delinquents (Cohen, 1967). In many cases these subjects would be diagnosed as personality

disorders or character and behavior disorders (CBD), the population to be studied in this paper.

THEORETICAL CONSIDERATIONS

In behavioral terms, the personality disorder is an individual who seeks immediate, powerful, and continuous reinforcement. His pay-offs "must" immediately follow the behavior designed to influence the environment. It is not surprising therefore, that psychiatric histories of the population are replete with indications of hostile and sexual acting-out. These behaviors are characterized by environmental effects (need gratification) which are consistent, immediate and powerful. Ferster (1966) has termed such behaviors pre-potent since they obviate the need for more subtle interactions for gratification.

An operant conditioning system suggests itself as the appropriate vehicle for rehabilitation of the CBD. Operant techniques have been developed to:

1. Gain control over behavior by the development of a maximum motivational environment.

2. Institute and shape toward appropriate behaviors through the application of continuous reinforcement (a CRF schedule).

3. Utilize schedules of reinforcement to require more extended behavioral responses to obtain reinforcements.

4. Take advantage of the "natural" reinforcing properties inherent in the exercise of appropriate behaviors (Premack, 1959).

The initial investigators of the 108 project believed that an operant approach would be effective in the rehabilitation of the delinquent soldier (Colman & Baker, 1969). The specification of stimulus conditions, preferred behaviors and contingencies of reinforcement would provide a system within which success and failure were immediately apparent to soldiers and staff. Precise rehabilitation goals

could be selected and behavioral plans made to shape the terminal performances. It was felt that the operant approach would also fit in well in the Army context and facilitate generalization. For example, in the military, appropriate behavior is rewarded by praise, promotion and pay incentives, while inappropriate behavior is punished by reprimands, fines or imprisonment.

The Population and Setting

The soldiers involved in Ward 108 were selected from hospitalized patients at the Department of Psychiatry and Neurology. Specifically, this includes patients who are diagnosed as Character and Behavior Disorders (CBD) by two physicians of the mentioned department, with the exclusion of homosexuals, drug addicts, and those with charges pending against them. The patients meeting the criteria of the program were divided into two groups: one group, the experimental group, was sent to Ward 108 for sixteen weeks of therapy. The other group, or comparison group, was discharged directly to duty. Both groups of patients received standard psychiatric treatment during their initial hospitalization in the course of evaluation procedures. In the absence of the 108 program, and according to usual Army procedures, all of these patients would have been sent back to duty as soon as determination was made that they were CBD's. Many would have received negative recommendations and less than 30% (Colman and Baker, 1969) would have had positive outcomes as described later.

This program was designed to compare the outcome of the usual Army procedure for dealing with the hospitalized CBD (no or minimal treatment beyond evaluation) with the results found from giving such persons sixteen weeks of conditioning therapy. From 1 July 1968 to 31 January 1970, seventy eight patients in this program were discharged from Walter Reed as either experimental or comparison group subjects. Chart #1 reflects the diagnoses with which these patients were admitted to this

facility. Depression and schizophrenia account for the largest percentage of admission diagnoses for both groups. The discharge diagnosis reflects the diagnosis given to a patient at the time of his discharge from this hospital; in the case of the comparison group, this means after evaluation on the admission ward, and in the case of the experimental group, this means after sixteen weeks of therapy on Ward 108.

On chart #2, the days of psychiatric hospitalization prior to transfer to Ward 108 (experimental) or discharge to duty (comparison) refers to the number of days spent on the admission ward for evaluation purposes, the respective means being 10.9 and 13.4 days.

Ward Description

The unit was an open ward in the sense that there were no physical constraints to moving in and out of the physical setting. Attendance at all daily activities was voluntary; the aversive control of physical deprivation was not utilized (by Army regulations one is required to provide sleeping facilities, clothing, and three meals per day to the soldiers).

The subjects were treated as military personnel, were referred to by the title "soldier," and wore the Army fatigue uniform as did the staff. In fact, attendance at ward functions was only reinforced if the soldiers were in proper military attire. They were required to observe the courtesies of rank and were subject to the Uniform Code of Military Justice for infractions of Army regulations.

On the ward the subject population was divided into two groups: Phase I and Phase II men. The soldiers on Phase I functioned under the point system of continuous reinforcement for specified behavior. Following eight weeks of outstanding performance under the point economy, a soldier might petition to be selected for Phase II. Selection for Phase II meant graduation from the point system. At this

CHART #1

ADMISSION AND DISCHARGE DIAGNOSES

DIAGNOSTIC GROUPING	ADMISSION		DISCHARGE	
	EXPERIMENTAL %	COMPARISON %	EXPERIMENTAL %	COMPARISON %
Depression or suicidal	39	56	0	0
Psychoneurosis	10	7	0	4*
Schizophrenia or functional psychosis	27	22	0	0
Organic condition (brain syndrome, syncope, drug abuse complications, post-concussion syndrome, alcoholic intoxication)	12	11	0	7**
Character and behavior disorders:				
Emotional instability reaction	6	0	37	22
Sociopathic and antisocial	2	0	10	15
Schizoid and paranoic	2	4	14	4
Passive aggressive and passive dependent	2	0	39	48
PERCENT TOTAL:	100	100	100	100
	n=51	n=27	n=51	n=27

*Dissociative reaction (1)
**Alcoholic addiction (1) & Alcoholic intoxication (1)

CHART # 2

DESCRIPTIVE DATA

	EXPERIMENTAL	COMPARISON
AGE:	$\bar{X}$ = 20.6 S.D.= 2.83	$\bar{X}$ = 20.3 S.D.= 1.52
EDUCATION:		
Less than high school	39%	52%
High school graduate	37%	22%
More than high school	24%	26%
MONTHS ON ACTIVE DUTY PRIOR TO HOSPITALIZATION	$\bar{X}$ = 12.6 S.D.= 10.24	$\bar{X}$ = 14.9 S.D.= 12.99
MONTHS OF ACTIVE DUTY REMAINING AFTER DISCHARGE FROM HOSPITAL	$\bar{X}$ = 20.6 S.D.= 10.96	$\bar{X}$ = 23.7 S.D.= 11.88
DAYS OF PSYCHIATRIC HOSPITALIZATION PRIOR TO TRANSFER TO WARD 108 (EXPERIMENTAL) OR DISCHARGE TO DUTY (COMPARISON)	$\bar{X}$ = 10.9 S.D.= 8.11	$\bar{X}$ = 13.4 S.D.= 23.5
	n = 51	n = 27

juncture reinforcers on the ward became contingent upon maintenance of near-perfect attendance and functioning as work supervisors of the Phase I soldiers.

To enhance the "on-duty" atmosphere of the 108 project, the unit was located at the Forest Glen Annex several miles from the main hospital section. The physical plant included a large bay area for meetings, three semi-private bedrooms, a pool room, a TV room, card room, office, and staff conference room.

Staff

The staff complement was 13. These included: the clinical director, a psychiatrist; the research director, a clinical psychologist; the supervisor of the work program, an occupational therapy officer; the supervisor of the follow-up program, a social work officer; a unit NCO, a sergeant first class; two assistant NCO's; five neuropsychiatric technicians, two research technicians and one research secretary.

An indispensable component of a behavioral program is the existence of a well-trained staff who will exercise immediate and competent responsibility for the program. A formal ongoing staff training program was instituted. In an experiment comparing didactic teaching methods similar to an ordinary classroom with a combination of the "interview" and "master test" methods of Ferster and Perott (1968) and Keller (1968) respectively, the combination method as measured by test examinations on different staff populations proved most valuable.

The initial training of staff, while a necessary condition for implementation of an operant program, is not sufficient. Maintenance of skilled performance is a crucial variable. In view of this, the principle investigators utilized reinforcement techniques to maintain staff behavior; i.e., superior staff performance was rewarded by praise, high efficiency reports, and choice work schedules.

METHOD

Target Behaviors

The reinforcement system on Ward 108 was designed to reinforce contingently critical behaviors thought to be important in general social and work adaptation as well as behaviors important in individual adaptation. It was developed with certain general assumptions based on clinical experience with CBD's in mind but with additional flexibility to handle individual soldier problems.

It was assumed that the CBD seeks immediate gratification, that the behavioral repertoire of the typical CBD was deficient in certain social interactions leading to emission of inappropriate alternate behaviors, that many CBD's lacked basic skills with which to maximize the reinforcements available in the environment, and that the CBD had been on schedules of reinforcement maintaining inappropriate behavior. Behavioral histories of failures in social and educational endeavors, encounters with civilian and military police, and ineptness in dealing with frustration and crisis lent support to these assumptions. A small segment of the population had the requisite skills but lacked the motivation to apply them consistently toward long-range, socially acceptable goals.

The reinforcement program, then, was designed to institute (or reinstitute) and maintain appropriate behavior in the subject's repertoire and to extinguish inappropriate behavior. Target behaviors were selected under the broad categories of performance classified as social, educational, work, military, and recreational skills. All of the soldiers were to become at least minimally proficient in these areas. In addition the individual's behavioral history was reviewed and outstanding areas of deficiency or inappropriate behavior were to be handled by an individual behavioral plan.

Points

Points were chosen as the secondary reinforcing system on Ward 108 because they may be awarded immediately following the behavior to be modified, giving immediate feedback to the soldier. Points cannot be lost, stolen, or used by any other soldier, important considerations in delinquent populations. Points may be withheld or deducted upon the appearance of neutral, apathetic, or inappropriate behavior. Thus points allow considerable flexibility for discriminative reinforcement. At Ward 108 points were administered on a scheduled basis which would be essentially the same for soldiers on a particular phase. Additionally, points were consumed in activities which allow behavior to come more readily under natural reinforcers. Points have an emotionally neutral quality of importance to individuals whose interactions with authorities and other significant persons may have been characterized by inconsistency, conditioned emotional responses, and behavioral repertoires disruptive to productive interaction. Points to some men seemed to represent face-saving devices in which the "smart" thing to do was to obtain the reward rather than "buck the system." Points are a means of programming staff responses to the soldiers, i.e., a control of staff behavior. Points aided in the solution of data reduction and analysis since the quantity and quality of performance - represented by a behavior and a number - were immediately available to both soldiers and staff. Due to this flexibility of points it was possible, with the aid of COMPSY, a research program involving computer applications in psychiatry, to develop a relatively simple program which gave sophisticated day-by-day measures of significant patient performance.

The Ward Program

The points were administered in terms of scheduled activities, with the earning day beginning with reveille, details (clean-up), formation and inspection,

and physical training. Following this staff and soldiers attended a unit meeting at which running point totals were announced, administrative matters were dealt with and changes in the ward contingencies were promulgated. This was a task-oriented, working meeting that was deliberately designed to be free of the vague or unstated goals of traditional group psychotherapy. In order to encourage written communication, the soldiers were then given a period of time to submit a written report on any topic.

The unit educational program comprised the bulk of morning activities. A variety of instructional vehicles were made available to staff who administered the educational program. In addition to traditional forms such as lectures and group discussions, programmed texts, role-playing, debates, and interview teaching (Ferster & Perott, 1968) were developed to communicate material.

Sampling across the broad target performances, classes were offered in military history, study skills, male-female relationships, sexology, public speaking, everyday psychology, spelling, archery, music, and physical conditioning. An attempt was made to tailor the specific courses to the particular needs of a subject as determined by intake interviews and analysis of his behavioral history.

The education hours were chained to the final activity of the morning, verbal report. In order to obtain points for attendance at the classes, the soldiers had to attend this activity. Soldiers at the verbal report were encouraged to engage in a public speaking performance relative to the morning's activities. Points, constructive criticism and praise were used to shape good speech performance.

The afternoon program was the unit "mission assignment" or work project. In this area, the projects were designed to require long-range planning and sustained performance. Past work projects included various remodeling and renovation projects as well as the construction of a recreational area. The work program, supervised by the occupational therapist, utilized men with prior construction skills, while

non-skilled soldiers were trained in these areas or are utilized as general laborers. Points were awarded according to staff ratings of work behavior.

Specified Long-Range Reinforcers

In keeping with basic assumptions about the CBD population, immediate and continuous reinforcement comprises a large component of the program; however, when working with a patient population which cannot delay the need for immediate reinforcement, it becomes imperative to build into the system situations which teach tolerance to long-range reinforcement.

To provide such stimulus situations in which learning to delay gratification may occur, reinforcers of special recognition, free time, recreation, and contracts of individual choice have been used.

In the area of special recognition, the Soldier Worker of the Week is the man who earns the highest number of points on work project over a one-week (5 day) period for which he receives one-half day of free time. A Soldier of the Week is chosen by a vote of the staff and is used as a reinforcement for that man who best exemplifies the most consistent and most successful participation in all ward activities. The added reinforcement which goes along with Soldier of the Week is a 100-point bonus and eligibility for Soldier of the Month. Each month one man is chosen from the Soldiers of the Week and becomes Soldier of the Month, for which he receives five dollars and a 3-day pass. This process becomes a shaping of tolerance to delayed gratification as a man moves from Soldier of the Week to Soldier of the Month.

Periods of free time from the program are usually associated with national holidays. At such times (Christmas, Easter, 4th of July, etc.) the men are offered leaves from the sytem generally ranging from four to nineteen days. To earn this type of reinforcement, behaviors are chained by the staff and proposed to the men

in the form of a Holiday "contingency." Those men who meet the criteria for the contingency are given the reinforcement of the leave. In the case of a four-day leave the contingency may run for only one week and contain a relatively small number of behaviors. Those contingencies offering a greater reinforcer of extended leave may run for three or more weeks. An example of such a Holiday contingency (5 days of leave) is the one used for Easter as follows:

EASTER LEAVE

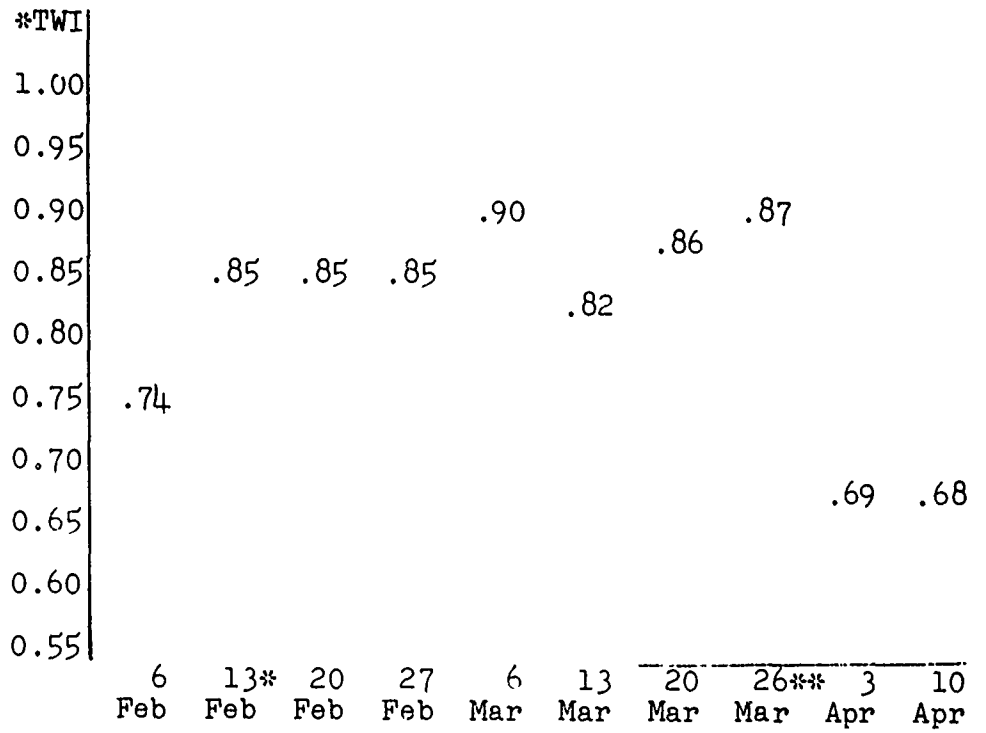
A. Leave to take place 0900 hours 26 March to 0700 hours 1 April, 1970.

B. Requirements:

1. Total earnings of 3,300 points.
2. Must have an active individual contract (by 9 March). Any individual not having a contract must pay an extra 50 points per day after 9 March that they do not have an active contract.
3. No D.F.'s to Medical Holding; i.e., no major disciplinary infractions.
4. Minimum of 500 points earned during last week of contingency (3 days).
5. Pass cost is 350 points.

The total ward index (TWI) for this and the post-contingency period reflect the findings typical of a continuous reinforcement schedule, i.e., high level of performance with a decrease following the delivery of the reinforcement, as shown in Chart #3, page 14.

Chart # 3
Easter Contingency



* TWI is a measure of the weekly attendance at all activities with 1.00 being perfect attendance of all available men at all activities.

** Start of Contingency

*** End of Contingency

Contingencies of such magnitude teach tolerance for long-range reinforcers. Recreational activities are used not only to teach more appropriate use of leisure time but also are used as reinforcers. Within the system, recreation is used as both a short and long-term reinforcer. On a weekly basis those men who participate at least 80% in work project are reinforced by an afternoon at the swimming pool and bowling alley. The skills of swimming, diving and bowling are taught on a regular basis and men are encouraged to participate in organized activities such as water polo and bowling league. Fishing trips are used as reinforcers for specific and usually short-term behavioral contingencies.

The contract system is offered on an individual basis for those men who wish to earn points during off-duty time. Activities deemed appropriate for a contract are many and reflect the personal interest of the individual. A man may write a contract to engage in off-duty activities such as photography, craft work, education, sports, etc. Points are assigned at the end of the week and are based on the time spent engaging in such activity.

Negative Reinforcement and Punishment

Some inappropriate behaviors cannot be treated by extinction or conditioning of incompatible alternative behaviors. Generally these are behaviors punished by the Army and/or civilian authorities (tardiness or AWOL, assault, drunken and disorderly, etc.). A few such inappropriate behaviors would not generally be explicitly punished elsewhere but are behaviors which must not be reinforced and are too dangerous to be ignored (suicide gestures). Other inappropriate behaviors are peculiar to the system (spending points when one's points are deficient for the activity).

Immediately upon emission of such behaviors or as soon as they become known, the soldier is told he is liable for a "fine action." Telling the soldier he is

liable for a fine action serves as a pre-aversive stimulus satisfying the need for immediacy of punishment following the act. A pre-aversive stimulus has the emotional qualities of a punishment. All fine actions are then handled on Friday at the Pass Review Board. This Board also handles requests for passes and awarding of points on individual contracts.

The Pass Review Board consists of one patient representative who presents the defense of the soldiers facing fine action and who also recommends an appropriate fine; one technician, the wardmaster, and one officer who presides and makes the final decision. The Board may levy a point fine, which, for the sake of fairness, is based on precedents derived from several years' experience. English Common Law was consciously modeled in this respect. It may also recommend that a formal complaint be sent to administrative authorities from the clinical director requesting non-judicial (Article XV, UCMJ) or judicial (court martial) punishment. This latter procedure would be reserved for serious offenses such as prolonged AWOL, assault, drug abuse, etc.

Since a soldier usually knows the precedent for his fine action, he may work harder to earn points to ameliorate the effect of the punishment. Thus he is actually on a negative-reinforcing schedule (behaving to prevent an aversive consequence). A soldier may not "go in the red" in the system; therefore, if he has insufficient points to cover a fine, he is given an earning detail during the weekend to pay for the fine. Failure to carry out the detail results in a request for judicial or non-judicial punishment for disobedience of an order.

THE FOLLOW-UP PROGRAM

A follow-up program, directed by a research social worker, is incorporated as an integral part of the 108 project design. Its function is twofold; first, to provide data from which general assessments of the program's effectiveness can be

measured and second, to provide feedback to the staff on specific soldiers. The latter is a significant element in staff reinforcement and motivation.

The basic design of follow-up involves the making of comparisons of outcomes and performances between graduates of Ward 108, the experimental group, and the comparison group. Four months after discharge, an in-person evaluation is made by the social worker at the subject's duty assignment. This visit consists of a private interview with the subject, his commanding officer and the non-commissioned officer who supervises the individual. In addition, the post's mental hygiene facility is visited to ascertain whether any contact has been made by the individual.

On each visit a fourteen-page data collection instrument is used. It consists of three semi-structured interview guides and collection sheets for various environmental variables which were hypothesized to affect a subject's adaptation. Each follow-up visit produces uniform and comparable information about the subject's behaviors in a wide range of areas, in addition to documenting the major characteristics of the environment.

A less intensive follow-up evaluation of subjects in both groups is made eleven months after their initial discharge from Walter Reed. The individual's unit is contacted by telephone to verify that he is still on active duty and to document any significant changes in his behavior.

The preliminary outcome results for subjects discharged from 1 July 1968 to 31 January 1970 is reflected in Chart #4. Subjects represented in this data all have been discharged from Walter Reed to regular duty for at least four months. The range for the combined group (n=78) is 14.8 months. The percent of subjects discharged during the mentioned time period exhibiting positive outcomes is eighty percent for the experimental group as contrasted to fifty-two percent for the comparison group. The difference in successful and unsuccessful frequencies between

CHART #4

FOLLOW-UP FINDINGS OF PATIENTS
DISCHARGED BETWEEN 1 JULY 1968 AND 31 JANUARY 1970

POSITIVE OUTCOMES:	EXPERIMENTAL	COMPARISON
Completed active duty (ETS)	21%	7%
Currently on active duty	59	41
Hardship discharge	0	4
TOTAL SUCCESSFUL	80	52
NEGATIVE OUTCOMES:		
Psychiatric discharge	8	0
Administrative discharge (AR 635-212)	8	33
Desertion	4	11
Incarceration	0	4
TOTAL UNSUCCESSFUL:	20	48
PERCENT TOTAL:	100	100
	n = 51	n = 27

the two groups is statistically significant at the .05 level.

SUMMARY AND CONCLUSIONS

A point economy based on operant conditioning theory as best described by Skinner (1938, 1963) and following the pioneer concepts of Ayllon and Azrin (1968) was established with a unique population: hospitalized soldiers diagnosed as character and behavior disorders. The usual handling of such men (discharge to duty with a negative recommendation) would have resulted in a loss of over 70% to a negative outcome. As seen in the comparison group which received positive or neutral recommendations, approximately 50% could be salvaged by this procedure alone, while utilization of a motivational environment based on operant theory resulted in 80% positive outcomes. An additional finding of significance is the value of this system in managing personalities who in other settings have been sources of frustration due to their inappropriate behavior. It is felt that these results indicate applicability in other settings with "captive" groups such as committed alcoholics, reformatory inmates, etc. A number of programs based on the Ward 108 experience are currently being designed in various Army facilities ranging from basic training centers to stockades, drug addict centers, disciplinary barracks (Poirier, 1970), and an experimental ward for recovering schizophrenics (Jones, Poirier, and Mills, 1971).

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